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English.	Sea-coast Tribes.	Natives of the Interior.
Spear (for hunting)	Mangol.	Irakullah.
Sponge	Roogurro.	
Stars	Mungurah.	
Sun	Roomarrah.	
Tattooing	Markoodah.	
Thigh	Ballungerah.	
Throat	Yarmallah.	
Thumb	Kárrkorgi.	
Water	Woollah	Woollah.
West	Yalban.	
What is the name of it?	Nambomung	Nambo.
What is that?		
Woman	Banggoorh	Bungoon.
Zenith	Kariboh.	

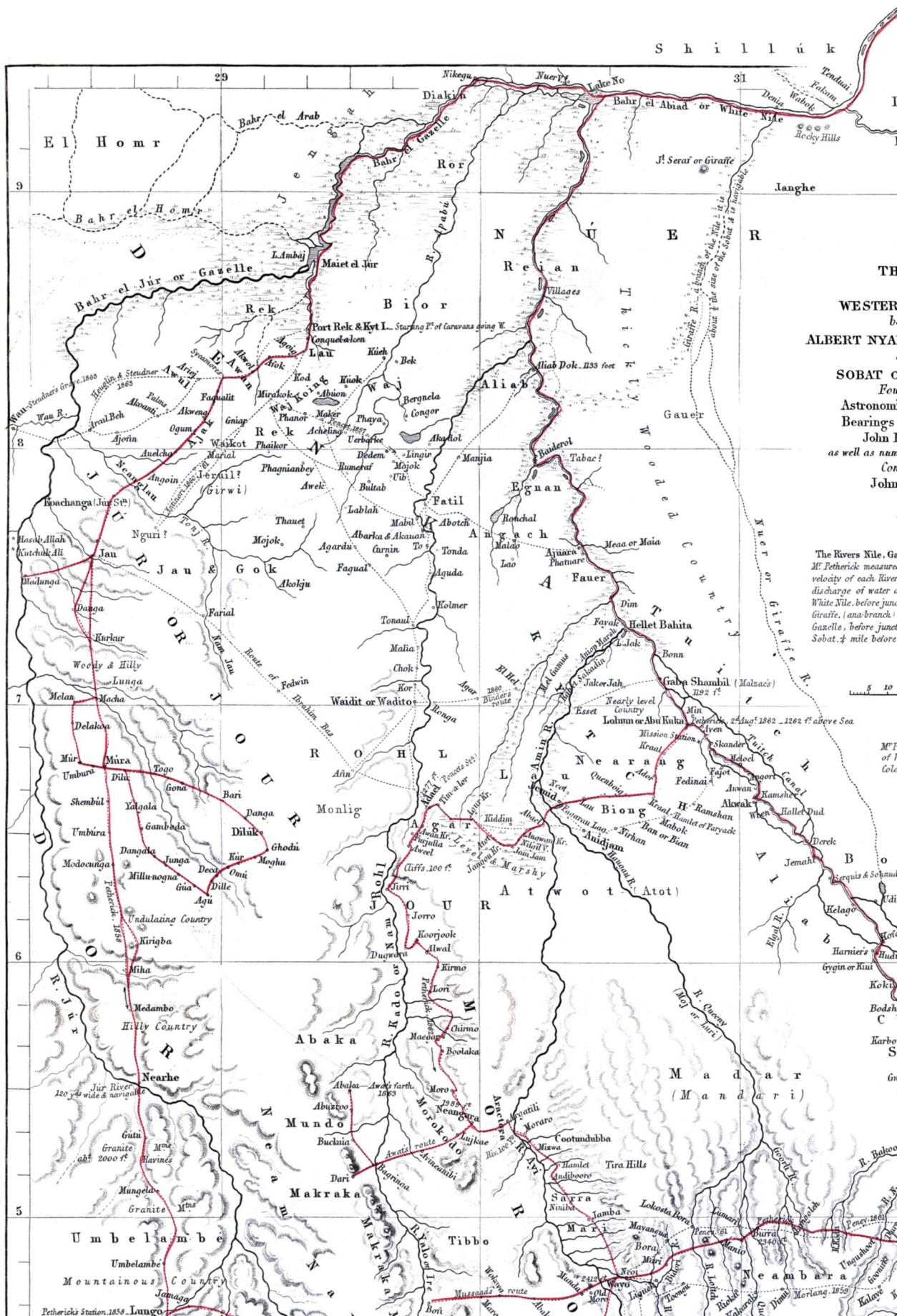
By this it will be seen that the language ignores sibilant letters ; many of our consonants these natives cannot pronounce at all ; *e. g.* t, and its compound th, f, g, &c. In short, the language may be said to be composed chiefly of vowel and liquid sounds, with a limited number of consonants. The terminal h in many of the native words given above is very strongly marked, and is characteristic of and points prominently to the origin of the dialect. The letter r is rolled in the native pronunciation after the manner of the French.

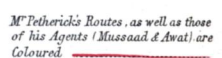
XX.—*Land Journey Westward of the White Nile, from Abu Kuka to Gondokoro.* By J. PETHERICK, Esq., late H.B.M. Consul, Soudan.

Read, April 25, 1864.

[The following account of Mr. Petherick's land journey, with the exception of the tables of observations now printed for the first time, formed part of the Report which he furnished to the Society on the Speke and Grant Relief Expedition, and which was published, soon after it was read, in the 'Proceedings,' vol. viii. p. 126. It was then stated that the geographical results of the journey would be reprinted in the 'Journal,' accompanied by a map. The map, as will be seen, shows the connection between Mr. Petherick's land route and the explorations of all other travellers in this region, between the Ghazal on the north and Lake Albert Nyanza on the south. It has been compiled by Mr. Arrowsmith, after long and conscientious study of all available materials, including the well-kept field-books of Mr. Petherick and his assistant, Dr. Murie.

Mr. Petherick's original Report commenced with an account of his preparations and difficulties at Khartûm. He left that place on his voyage southward, March 20th, 1862, passed the mouth of the Sobat on the 8th of April, and on the 17th reached the confluence of the Bahr-el-Ghazal. The season being very unfavourable, contrary winds and continued rains impeded his progress ; and on the 2nd of July, having reached the station of the





1865.

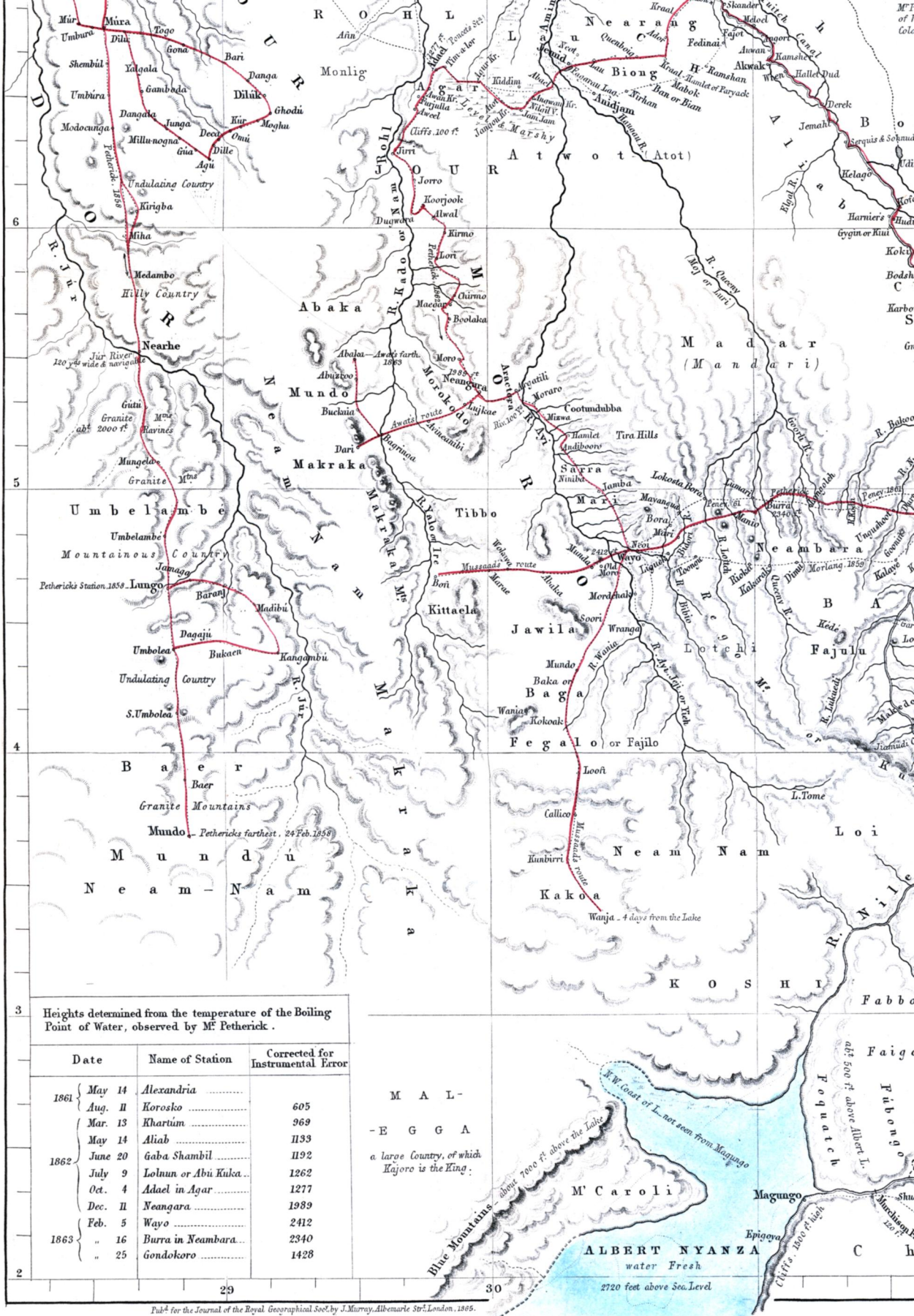
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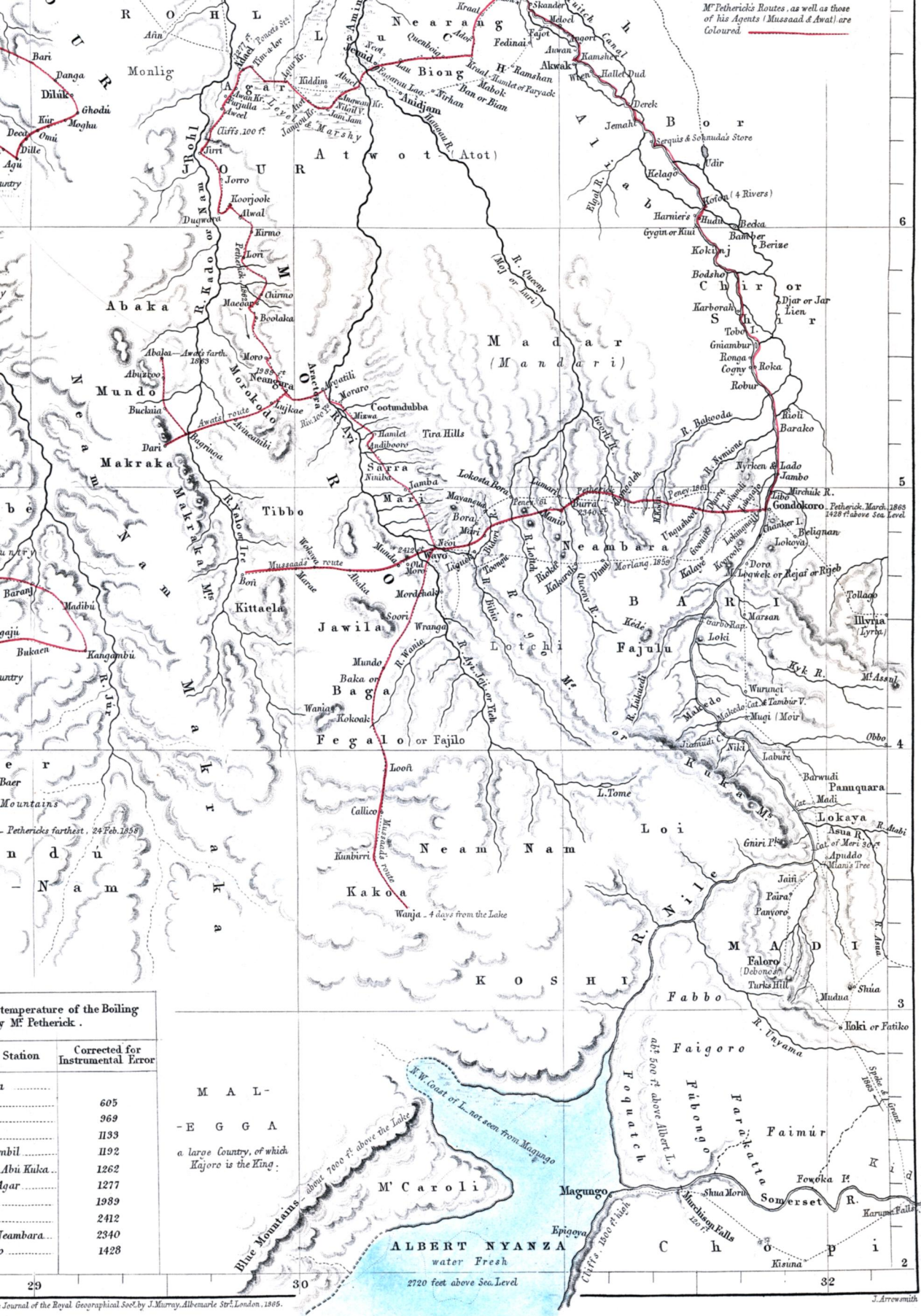
1863 Date.

25 Apr.^l
25 Apr.^l
6 June

A horizontal scale bar labeled "English Miles" with markings at 5, 10, 20, 30, 40, and 50.

*M^r Petherick's Routes, as well as those
of his Agents (Mussaad & Awat) are
Coloured*





Temperature of the Boiling by M' Petherick.	
Station	Corrected for Instrumental Error
.....	605
.....	969
.....	1133
.....	1192
Abu Kuika	1262
Agar	1277
.....	1989
.....	2412
.....	2340
.....	1428

M A L -
- E G G A
a large Country, of which
Kajore is the King.

Messrs. Poncet at Abu Kuka, he resolved to abandon the attempt to continue his journey to Gondokoro by water. At this point, therefore, his record of the land expedition commences.]

July 2nd, 1862.—Arrived at Abu Kuka, or Lohun, and the elder Poncet gave us as hearty a welcome as the swamp he inhabited could afford. He had sent us his only towing-line, and the country affording no palm-trees no raw material was procurable. Under these circumstances, to quit the boats and proceed by land was the only alternative; and Jickwi, the Kytch chief, promising porters with alacrity, I at once decided to proceed *via* the Aliâb to Gondokoro, or my station, as circumstances might dictate.

July 4th.—The doctor's boats and consort joined, and the donkeys were sent on to Adôr, some 12 miles' distance westward, where Poncet possessed a hunting-station. The chief Jickwi had promised porters to conduct us to the Aliâb from Adôr; but, on eliciting particulars, I found the payment was expected to consist of a cow for each porter. The necessary cattle were to be obtained by a *razzia* on my part against the Aliâb, with whom the Kytch were at feud. The proposal was declined, and the upshot of a long conversation with Poncet and a palaver with Jickwi was, that I must proceed to the Rohl, some fifteen days' journey due west. At that place I could obtain porters for copper bracelets, and thence any desired number of negroes for the same commodity or beads, to my station, presumed due south. Poncet's principal station was at the Rohl; therefore, his statements seeming reliable, I decided to adopt the route, although a terribly roundabout way to Gondokoro. On the 8th of July a party of negroes were despatched with loads to Adôr.

July 11th.—Got out my gutta-percha punt, and, to the agreeable surprise of our men and some wondering negroes, I rowed Mrs. Petherick across the Nile.

July 17th.—Several heavy storms had considerably damaged our stores, and quantities were thrown overboard.

July 18th.—Bright morning; thunderstorm and drenching rain at noon. At 3 P.M. sent off another lot of forty-five porters.

To Surkatti, under orders for Gondokoro to await us and support Captains Speke and Grant in case of their arrival, was given the dispensable cordage from the standing rigging of three boats (which were to return down river), to serve for towing-lines to conduct him to the Shyr. At that place raw material was known to exist sufficient for the manufacture of any amount of cordage he might require for his necessities till he reached Gondokoro.

Preparations were completed by July 25th, and his boat laden deep with stores, the liberated children, and a guard of twelve men, Surkatti, with the good wishes of all, spread his sails to a favouring breeze.

July 27th.—Jickwi and the porters became exacting, and, in lieu of a pair of copper ear-rings or a bracelet, a cow for each porter was insisted on. "If I was to rob any one, I would sack his house and village for breach of contract; and I could forego the goods already forwarded to Adôr, if unable to proceed thither in person." The argument was conclusive, and in the afternoon Mussaad, with an escort, accompanied a party of laden porters to Adôr.

I was occupied on the 29th July with final preparations for the return of the boats and our journey inland. Everything was prepared for leaving by the next day. Means were taken to provide a reinforcement of men and additional stores, with the despatch of the boats from Khartûm to Gondokoro, as early as possible in the approaching season.

July 31st.—The negroes having disappointed us, we set out alone at noon with a small party only of our men, who by this time had become familiar with the route. The Doctor and Foxcroft were left to bring up the last loads, for which we hoped to send the required porters from Adôr. The boats also were about to leave their moorings from Khartûm, and with heavy hearts their crews took anxious leave of us.

We proceeded on horseback, through slush and marsh, and over water in our punt. We passed the night in a kraal. The greater part of the cattle lay in water, and to all intents and purposes, like their masters, had become amphibious.

August 1st.—A continuation of marsh to the precincts of Adôr, where we found our tents pitched outside the station. Jickwi and our active agent failing to procure porters at any price short of cattle to be stolen from the Aliâb, had, to lose no time, at quadrupled rate of copper bracelets, hired twenty negroes to proceed with sixteen laden donkeys, supported by an escort of twenty-seven men, under an old hand, to the Rohl, some sixteen days' march due west. From this date our *Diary** was regularly kept; and as I forward it for your inspection, I need now but touch upon the principal events of our journey, which therein may not be sufficiently explained.

Aug. 11th.—Notwithstanding the endeavours of Deraden, chief of the village, Jickwi's brother, we could not obtain sufficient porters for even the most indispensable of our requirements. Therefore, on the 15th of August, we were constrained to leave 150 loads behind. Left Adôr with forty porters, eighteen laden

* This contains all the details of bearings, dead reckoning, observations for latitude, longitude, and altitude from day to day, which form the material on which the accompanying map of the route has been constructed.—[ED.]

donkeys, six trained bullocks, and several head of cattle, purchased at 15 shillings a-head for our requirements on the road.

Aug. 19th.—At 3 P.M. we arrived at some fishermen's huts, forming a hamlet called Jemid, on the bank of an apparently boundless lagoon, called Faragau, conducting to the river Haugau; supplied by streams from the south, and discharging itself into the Nile at the northern extremity of Gaba Shambyl, in the territory of Fouaer. The lagoon divides the Kytch on the east from the Atwot and Rohl on the west. After the rains the waters subside into two or three channels, and the land affords coarse but abundant pasturage.

Aug. 22nd.—The fishermen of the hamlet, who yesterday had contracted for thirty canoes to ferry us across the lagoon, during the night have decamped with bag, baggage, and canoes.

Aug. 25th.—At 7.25 P.M. saw a comet, and observed distances—from Benetnasch, in Ursa major, $10^{\circ} 3'$; Ras Alhague, in Ophiuchi, $30^{\circ} 53'$; and Alphacca, in Coronæ Borealis, $25^{\circ} 44'$.

Aug. 28th.—The negroes of the adjoining village of Neot harbouring the fishermen, and refusing to barter grain or food of any description, we were obliged to occupy the village, and, in the event of a protracted refusal to ferry us over, were determined to subsist on their ripening grain until the drying up of the lagoon. The huts, at considerable distances from each other, were being abandoned, and the high corn dividing them was resorted to by the negroes, to all appearance bent on attacking us. Flanking our porters, we marched to about the centre of the village without opposition; and taking possession of a deserted set of huts in an enclosure for the deposit of our traps, our tent was pitched outside. High stages, used by the negroes as look-outs, were occupied by our sentinels. After a short palaver with a few of the natives, and a repetition of our requirements and intentions, canoes were promised on the following day.

A heavy shower of rain followed; and when about to cease, in lieu of the expected fishermen, we were astonished by flights of arrows, discharged by the negroes in the belief, as we afterwards discovered, that the rain would prevent the discharge of our fire-arms. Several shots from our wary men told a different tale; and hurrying, rifle in hand, to a stage to show them the effect of our arms, and daunt them at the least possible expense of life, at 300 yards I picked off a leader backed by a strong party.

The man was no sooner down than his men relieved him of his bow and arrows, and fled. Our attendant, Ringa, true to Nyam Nyam habits, administered the *coup de grace* in the head. I was sorry for it, and would have preferred having him a prisoner. His wife and son, a boy, fell into our hands. Four or five others had

rallen; and, finding their bows and arrows took no effect, the affair terminated.

Aug. 29th.—Three negroes presented themselves, and peace was offered and accepted. To ratify it, the next day, a white bullock was slaughtered, and ourselves, but particularly the tent, were elaborately sprinkled with water. Fishermen and canoes were promised to convey us on our way.

Aug. 31st.—A heavy storm and abundance of rain; our tent was inundated. Negroes did not show themselves.

September 3rd.—Seventeen canoes in waiting, we returned to our old quarters at Jemid. At noon the canoes were loaded, and sent on to a deserted kraal farther south, to which we followed in our punt on the next day. We had scarcely time to pitch our tent when a heavy storm inundated our baggage.

Sept. 5th.—The canoes, with a guard of ten men, heavily laden, with the greatest part of our stores, at 9 A.M., left to cross the lagoon, and return for the remainder.

Sept. 6th.—Some firing heard in the direction of Jemid was inexplicable; and at 7 A.M., twenty-one of our men, with forty porters, on their way back from the Rohl, came marching gaily up with colours flying. They had successfully crossed the lagoon the day previous; had seen nothing of our party of ten men and baggage; and, ignorant of our presence, had dismissed their canoes. They were on their way back to Adôr to fetch some of the remaining stores.

At 10 A.M. two shots were faintly heard across the lagoon, and we fancied they might proceed from our men, perhaps returning with the canoes. The day passed without intelligence of them, and suspicions were entertained that all was not right.

The return men from the Rohl, on their upward journey, had been deserted by the fishermen, after having ferried over their goods only; and the greater part of the men, at the risk of their lives, had to swim and wade alternately during an entire day to cross the water. Their porters, with the sole exception of the chief, Jickwi, took advantage of their opportunity and deserted. Reduced to their donkeys, they were obliged to advance short stages, and return for the remaining loads; thus they accomplished a weary journey to the Rohl, compelled to traverse the same ground twice over.

Sept. 7th.—Despatched, at 8 A.M., seven men and an interpreter—Kheir Allah—in the punt across the lagoon to look out for the advance party; proceed with them to Atwot, and endeavour to procure canoes.

At 5 P.M. five canoes were announced; they turned out to be our own men, who had left us with the seventeen canoes laden with goods on the 5th. They had evidently been roughly handled—

vouched for by bruised faces, cut heads, and swollen arms. The negroes had, in fact, betrayed them by upsetting, at a given signal, the canoes. The unfortunate men, struggling in deep water, were mercilessly clubbed on their heads, faces, and arms, held up to protect themselves; and two of the party sank to rise no more. The loss of goods was sad and irreparable, comprising photographic lens and chemicals, arsenical soap, and flaying-instruments; the whole of our stock of beads, four elephant-rifles and muskets, a pair of tusks, trophies of Carlo; the Doctor's, Foxcroft's, Carlo's, and the entire of the men's clothing, with other things too numerous to mention.

Fortunately two or three of the men retained their guns, and notwithstanding the immersion they did not fail them; and, killing as many negroes, the savages made off, leaving five canoes bottom up, by means of which they returned to us. To add to our misfortunes, Mrs. Petherick was suffering from fever, myself with lumbago, and our men, of whom many were invalids, were straitened for provisions.

Sept. 8th.—Embarked eight men, with the few stores we had left, in the captured canoes, and, at 5 P.M., after a hard day's work, they returned, having landed the goods in a deserted kraal, and consigned them to Abd-el-Kheir and his party, who had yesterday crossed in the punt.

Sept. 9th.—Sent out porters, under an escort, across the water; and, as Mrs. Petherick was too ill to move, gave orders for them to proceed with the baggage to the Rohl, and to return as soon as possible for us. In the mean time I retained the men and porters thence, who had joined on their way for more goods from Adôr.

Sept. 10th.—The canoes having returned, sent Mediné, an old servant, with a reinforcement, to join the men on the other side, and proceed with them to the Rohl, fearing lest a small force might come to grief.

Sept. 12th.—Returning from a morning ride, with some guinea-fowl, I was astounded to learn that our trusted agent, Mussaad, had been shot at, and killed instantly, by a youth of Moorish descent, in a quarrel. The lad was sitting some 50 yards off, in the expectation of a similar fate; but I handcuffed him instead.

Sept. 17th.—Mrs. Petherick, feeling herself equal to the task, although very weak, begged to leave the unwholesome spot; and, accordingly, we embarked our remaining baggage in the canoes, and, with astronomical instruments and our firearms, we entered the punt. Crossing the Haugau, we had navigated a narrow channel in the reeds, about a mile, and got into a strong current joining the central channel. Their united streams, called Amin, flowed north, and formed a stream about 30 yards wide, and 16 to

18 feet deep. We then passed into shallow water, from 1 to 3 feet deep, amongst high grass and reeds, with occasional open spaces of clear water.

The dense wood seen on the horizon from our camp on the Haugau was now but a short distance from us, and it also was inundated. Ant-hills became conspicuous, and we disembarked on one, whence our effects were carried by the porters to a deserted kraal, called Abael, and the canoes returned for the doctor and the rear. Thus the Lagoon was virtually passed; but although we were now on a spot of dry ground, the entire country as far as the eye could reach was inundated.

Hence through the Atwot territory we waded full three-fourths of the way to the Rohl, and at noon, Sept. 22nd, we reached the long-talked of Poncet station, near the village of Adael. The station consisted of an extensive stockade: the outer one was allotted to the cattle, and in the inner one, containing some 70 huts, we were allotted three thereof for our accommodation.

Sept. 26th to 28th.—The ways and means for further progress having been proposed, and my plans frustrated as much as possible by the agent of the station, to whom I had delivered a letter concerning us from his employer, my presentiments, gleaned *en route* from the men, at length were beyond a doubt confirmed, that without cattle I could not move.

What the intentions of Poncet and his agent at Adôr were, to mislead me by representing the Rohl as a bead-trafficking community, I could not imagine, as even the ordinary articles of consumption, such as moderate quantities of grain, honey, and tobacco, could only be obtained in exchange for a cow or calf. Had I chosen to rob cattle in order to pay the porters, I could have done so at the Adôr, and avoided all the inconveniences and heavy losses that had befallen us by following this impracticable and circuitous route. What was to be done? Indebted to the amount of some sixty head of cattle for the hire of the porters who had accompanied our men, whom we met on the Lagoon, the agent, for an equivalent of goods or money, could not, or would not, supply me with any more cattle. Neither would the negroes of the adjoining village dispose of any of their cattle for any consideration in our power to give them. The men's demands for cattle to purchase their different requirements, put off from day to day, rendered them troublesome and turbulent. They told me we could neither return nor proceed, and they would consent no longer to privations, whilst in possession of the means to obtain them, and, with or without my consent, they were prepared to join Poncet's men in a *razzia*.

The storm I had long foreseen brewing now burst, and, as

matters would be only aggravated by a refusal, I gave my reluctant consent. Our reflections, as may be supposed, were none of the pleasantest. In lieu of the introduction of more valuable and civilising merchandise, such as cutlery, or cloth for wearing apparel, as articles of barter, of which the negroes are very fond—when the value of glass beads and copper ornaments began to decline and to lose their charm—the traders disgraced themselves by descending to the level of the savages, and imitated them, on a larger scale, in their attempts to enrich themselves by the plunder and destruction of tribe after tribe. From this to slave-stealing, and the pursuit of the traffic was but a step, which, according to my experience, all the traders have learned, more or less, to indulge in. With the produce they pay their men, and realise such profits, that to many, I believe, the ivory trade is but of secondary consideration.

October 22nd.—A commotion in the village. Some cattle have been stolen by the natives from the Atwot, and traced to Adael; several women and children have been seized in the corn-fields, to be retained as hostages for the stolen cattle.

Oct. 30th.—Our marauders returned, and after the deduction of one-third for the men, as I was informed was usual, we possessed sufficient cattle for all of our requirements. The only casualty was the loss of one man, in an elephant hunt.

November 13th.—At length the arrangements had been completed, and with one hundred porters for ourselves and fifty for a detachment of Poncet's men, we left the station to proceed due south. Poncet's agent and fifty of his men accompanied us to bring back the negroes to their homes, as, if left to themselves, they would risk being exterminated by the tribes.

Nov. 14th.—Crossing a sheet of water, we suffered some inconvenience by the desertion of a number of our porters, and the loss of some loads, which, thrown into the high grass or water, could not be recovered.

Passing subsequently through the Djour territory, and entering that of Moro on the 30th November, we made Neangara, the village of a chief of that name, who ruled over a district called Moro Morokodo. The country traversed gained in elevation, and we were now enjoying the prospect of several hills. The Rohl porters, as also Poncet's agent, would proceed no farther; and as the aborigines would not carry loads, we were obliged to wait here until porters could be obtained from my station, situated at some eight or ten days' journey farther south.

December 2nd.—One-half of our men left for the required porters. Illness prevailed to a great extent amongst us, and, in particular, my dauntless wife and myself were great sufferers.

Neangara and the natives were well behaved, and paid us great attention: many of our men were known to them by name, having been here on former trading expeditions from the station.

Dec. 15th.—Our agent Awat arrived from the station with a numerous escort, and brought us upwards of one hundred porters; but I was too ill to think of moving for some time to come.

Dec. 16th.—Awat, having some months previously left merchandise for barter with several Nyam Nyam chiefs, about four days' journey westwards, proceeded with some hunters, thirty men, and all the porters to Makraka, a Nyam Nyam district. Provisions there were abundant, whilst Neangara could with difficulty supply us with a sufficiency.

January 12th, 1863.—Awat and his men, with about 10 cwt. of tusks, opportunely arriving, were gladly welcomed.

Jan. 17th.—Arrangements being complete, and we convalescent, left Neangara, and, travelling through an undulating and prettily-wooded country, occasionally intersected by brooks, we crossed in our punt a considerable and highly picturesque river, called Ayi. Its course was 10° (azimuth compass), and its breadth about 100 yards. The depth varied from knee to waist, and it was reported to contribute its waters to the Haugau, of which lagoon I believe it to be perhaps the principal feeder.

Jan. 25th.—After crossing another pretty stream, the Bibio, we arrived at my station, situated near the junction of the Bibio and the Ayi, formerly known by the name of Neambara, but really situated, not in that district, but near the village of Wayo, in the Moro territory. Our donkeys, originally forty, had now dwindled to fifteen, and I lost my horse.

February 12th.—Having waited for a change of porters, we proceeded easterly, *viâ* the Neambara, through a romantic group of hills, compared by our doctor to the Trosachs, the drainage of which, the river Queeny, flowed north, and emptied its waters also, it was said, into the lagoon of Haugau.

Feb. 16th.—A vast plain, inhabited by the Bari, was reached. Sixty men, a reinforcement from Khartûm, were met, who with four boats had arrived at Gondokoro. The men were bent upon searching for us, and conveyed the unpleasant news of the rumour of our deaths, as also a letter from Mr. Baker, dated Gondokoro.

The various sluggish, and now for the most part dried up, water-courses which traverse the well-wooded and fertile plains, take an easterly direction, and finally discharge themselves into the Nile below Gondokoro.

Feb. 20th.—Arrived at Gondokoro, and to our agreeable surprise were greeted by Captains Speke and Grant, as also by Mr. Baker—the former having preceded us by five days.

MR. CONSUL PETHERICK'S OBSERVATIONS. Computed by EDWIN DUNKIN, Esq.,
Greenwich Observatory.

Separate Results for Longitude.

Station.	Month and Day.	Star or Planet observed with the Moon.	Resulting Longitude E.					
			Moon E.			Moon W.		
	1862.		°	'	"	°	'	"
Khartûm	Feb. 19	Jupiter	32	46	15			
	„ 23	Jupiter	32	36	30			
	Mar. 5	Aldebaran	..	..		31	50	45
	„ 7	Jupiter	..	..		32	11	0
	„ 8	Jupiter	..	..		32	18	45
	„ 13	Jupiter	..	..		32	43	30
Lohnun, or Abu Kuka ..	July 7	Jupiter	30	24	15			
	„ 8	Jupiter	30	53	30			
	„ 16	Sun	..	..		31	13	0
	„ 16	Sun	..	..		30	45	45
Adael.. .. .	Sept. 30	Mars	..	..		30	6	0
	Oct. 4	Mars	..	..		30	18	0
	„ 4	Mars	..	..		29	51	45
	„ 5	Antares	29	33	30			
	„ 10	Mars	29	10	45			
	„ 11	Mars	29	24	45			
	„ 12	Sun	..	..		30	42	30
	„ 14	Sun	..	..		30	52	15
	„ 15	Sun	..	..		30	47	0
	Nov. 10	Regulus	..	..		30	30	0
	„ „	Mars	30	6	30			
	„ „	Regulus	..	..		30	13	30
	„ „	Mars	30	29	0			
	„ „	Regulus	..	..		30	35	0
	„ „	Aldebaran	29	37	45			
	„ „	Regulus	..	..		30	47	45
	„ „	Aldebaran	30	12	0			
Neangara	Dec. 1	Sun	29	32	30			
	„ 2	Aldebaran						
	„ „	Altair?	..	..		30	41	45
	„ „	Aldebaran						
	„ „	Altair?	..	..		30	33	45
	„ „	Aldebaran						
	„ „	Altair?	..	..		30	19	45
	„ „	Fomalhaut	29	52	0			
	„ „	Aldebaran	..	..		30	4	15
	„ „	Fomalhaut	29	42	45			
	„ „	Aldebaran	..	..		30	5	0
	„ „	Fomalhaut	29	40	15			
	„ „	Aldebaran	..	..		30	27	45
	„ 3	Pollux	..	..		30	22	0
	„ „	Mars	29	42	45			
	„ „	Pollux	..	..		30	35	15
	„ „	Mars	29	55	0			
„ „	Pollux	..	..		30	4	0	
„ „	Mars	29	52	15				
„ 13	Sun	..	..		31	2	0	

MR. CONSUL PETHERICK'S OBSERVATIONS—*continued*.

Station.	Month and Day.	Star or Planet observed with the Moon.	Resulting Longitude E.					
			Moon E.			Moon W.		
Neangara	1863. Jan. 3	Mars	29	20	45	0	'	"
	" "	Regulus	..	..	..	30	18	30
	" "	Mars	29	34	15	..	..	..
	" "	Regulus	..	..	..	30	59	0
	" "	Mars	29	32	45	..	..	..
	" "	Regulus	..	..	..	30	23	0
	" "	Mars	29	52	0	..	..	..
	" 12	Sun	..	..	..	30	56	0
	" 13	Sun	..	..	..	30	57	30
Wayo.. .. .	Feb. 1	Regulus	..	..	..	30	30	15
	" "	Mars	30	24	45	..	..	..
	" "	Regulus	..	..	..	30	25	0
	" "	Mars	30	31	0	..	..	..
	" "	Regulus	..	..	..	30	28	30
	" "	Mars	30	18	30	..	..	..
Gondokoro	Mar. 25	Venus	31	58	0	..	..	..
	" "	Regulus	..	..	..	32	26	45
Mouth of Bahr-el-Ghazal	Apr. 24	Venus	30	4	30	..	..	..
	" "	Jupiter	..	..	..	30	1	0
	" "	Venus	29	25	45	..	..	..
	" "	Jupiter	..	..	..	30	21	30
	" 25	Venus	30	53	0	..	..	..
	" "	Jupiter	..	..	..	30	31	30
	" "	Venus	30	33	15	..	..	..
	" "	Jupiter	..	..	..	30	39	30
Island of Kyt	Mar. 8	Sun	..	..	..	29	47	45

FINAL RESULT OF MR. CONSUL PETHERICK'S OBSERVATIONS.

Date.	Name of Place.	Approximate Position.		Reading of Thermometer B. P.	Temperature.	Height.		
		Latitude.	Longitude.			Dunkin.	Error of Instrument.	Result.
1861.—Aug. 11	Korosko	0° .. "	0° .. "	211.0	0 ..	feet. 565	+	feet. 605
1862.—Mar. 16	Khartûm	15 37 28 N.	32 28 42 E.	210.4	89	913	56	969
May 14	Aliâb .. ..	.. ..	.. ..	210.2	90	1029	104	1133
June 20	Gaba Shambyl .. ..	.. ..	.. ..	210.1	82	1077	115	1192
July 9	Lolnun, Abu Kuka	6 54 35	30 49 07	210.0	87	1141	121	1262
Oct. 4	Adael, in Agar	6 35 53	30 08 04	210.0	84	1136	141	1277
Dec. 11	Neangara	5 22 41	30 06 26	208.8	88	1831	158	1989
1863.—Feb. 5	Wayo, in Moro	4 46 00	30 26 20	208.1	90	2240	172	2412
Feb. 16	Burra, Neambara .. ..	.. ..	.. ..	209.0	90	2165	175	2340
Feb. 25	Gondokoro	4 55 00	32 12 24	209.8	99	1251	177	1428
Apr. 24	Mouth of Bahr-el-Ghazal ..	8 58 40?	30 18 45	209.8	100			
May 8	Island of Kyt	8 27 13	29 47 45	209.9	96	..	..	..
			
			

Consul Petherick was supplied with three boiling-water thermometers, made by Casella; all of them have been returned in good condition. No. 2534 was lent to Mr. S. W. Baker at Khartûm in April, 1863; its error on return in Nov. 1865, was 0.80 — from its readings. No. 2535 } used by Consul Petherick { ditto
 No. 2536 } { ditto